

REMARKS

Applicants express appreciation to the Examiner for consideration of the subject patent application. Claims 1-24 remain pending. Claims 9-10 and 18-24 have been withdrawn. Claim 1 has been amended. The following remarks are in response to the Office Action mailed March 4, 2011 in which the following actions were taken:

(1) Claims 1, 4, 7-8, and 11-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,656,378 (hereinafter "Lambert"); and

(2) Claims 2-3, 5-6, and 13-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lambert.

Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, Applicants' remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Claim Amendments

The Applicant has amended claim 1 in accordance with the specification page 1, lines 6-9, 24-26 and page 2, line 15. As such, the Applicant submits that no new matter has been added.

Claim Rejections - 35 U.S.C. § 102

The Examiner has rejected claims 1, 4, 7-8, and 11-12 as being anticipated by several references. Before discussing the rejection, it is thought proper to briefly state what is required to sustain such a rejection. It is well settled that "[a] claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil of California*, 814 F.2d 628, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987). In order to establish anticipation under 35 U.S.C. 102, all elements of the claim must be found in a single reference. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986), *cert. denied* 107 S.Ct. 1606 (1987). In particular, as pointed out by the court in *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1981), *cert denied*, 469 U.S. 851 (1984), "anticipation requires that each and every element of the claimed invention be disclosed in a prior art reference." "The identical invention

must be shown in as complete detail as is contained in the...claim." *Richardson v. Suzuki Motor Co.* 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989).

The Applicant submits that Lambert does not teach each and every element of the pending claims. Notably, the Applicant has amended claim 1 to require that the solution adheres to a plastic substrate as well as have an affinity for a solution comprising pigmented polymer particles and a carrier liquid including a solvent of branched-chain aliphatic hydrocarbons. In other words, the Applicant has narrowed the claims such that the claimed coated substrate performs at least two functions: adheres to a plastic substrate and has an affinity for branched-chain aliphatic hydrocarbon-based solutions; e.g. liquid toners for electrophotographic printing.

As such, the Applicant notes that the present claims now require at least two functional limitations. First, the claims require that the solution adhere to plastic substrates. Second, the claims require that the solution has an affinity for a solution comprising pigmented polymer particles and a carrier liquid including a solvent of branched-chain aliphatic hydrocarbons. Further, the Applicant notes that the MPEP allows for functional limitations. Specifically, 2173.05(g) Functional Limitations states:

A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. *In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (CCPA 1971).

A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step.

The Applicant submits that the present functional limitations define the coated substrate "by what it does," i.e., adheres to a plastic substrate and has an affinity for a solution comprising pigmented polymer particles and a carrier liquid including a solvent of branched-chain aliphatic hydrocarbons, and "must be evaluated and considered, just like any other limitation of the claim." MPEP 2173.05(g).

The present claim elements are not taught by Lambert. Specifically, the Applicant submits that Lambert does not teach any specific embodiment having the step of “providing a solution or dispersion of a first material that adheres to the substrate mixed with an amine terminated material, the solution having an affinity for a toner comprising: i) pigmented polymer particles, and ii) a carrier liquid including a solvent of branched-chain aliphatic hydrocarbons.” While the Applicant acknowledges that Lambert generally teaches various types of substrates including those listed in column 5, lines 4-19, the Applicant submits that Lambert does not disclose or teach any specific embodiment of the present solution and the present substrate.

The Applicant notes that the proper standard for a 102 rejection is that “[t]he identical invention must be shown in as complete detail as is contained in the...claim.” *Richardson v. Suzuki Motor Co.* Additionally, the Applicant notes that in order to arrive at the specific compositional elements and method steps, the Examiner would necessarily have to pick and choose the substrate and mordant from various lists in the specification. With regards to picking and choosing, the court noted in *Sanofi-Synthelabo v. Apotex, Inc.* that “[the] reference must clearly and unequivocally disclose the claimed [invention] or direct those skilled in the art to the [invention] without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference”) (citations omitted). 550 F.3d 1075, 1083 (Fed. 2008). In the present case, Lambert does not directly relate Applicant’s amine terminated material to a plastic substrate. As such, the Applicant submits that the present rejection is improper and does not teach the present functional limitation.

In light of the above, the Applicant submits that Lambert does not teach each and every element of the pending claims. Therefore, the Applicant respectfully requests that the Examiner withdraw the present rejection.

Claim Rejections - 35 U.S.C. § 103

The Examiner has rejected claims 2-3, 5-6, and 13-17 over Lambert. Before discussing the obviousness rejections herein, it is thought proper to briefly state what is required to sustain such a rejection. The issue under § 103 is whether the PTO has stated a case of *prima facie* obviousness. The Applicant does not deem it necessary to recite the entire case law standard required in order to establish a *prima facie* case of obviousness. However, the Applicant would

like to briefly remind the Examiner that a *prima facie* case of obviousness generally includes establishing 1) that the asserted references as modified or combined teach or suggest each and every element of the claimed invention, 2) that the asserted references as modified or combined provide a sufficient likelihood of successfully making the modification or combination, and 3) a reason for the modification or combination asserted.

Additionally, under *KSR*, and as outlined under the MPEP § 2143, additional rationales include (a) combining prior art elements according to known methods to yield predictable results; (b) simple substitution of one known element for another to obtain predictable results; (c) use of known technique to improve similar devices (methods, or products) in the same way; (d) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (e) "obvious to try" - choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (f) known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art; and (g) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

The Applicant respectfully asserts the Examiner has not satisfied the requirement for establishing a case of *prima facie* obviousness in any of the rejections. The Applicant notes that the present rejection is a single reference 103 rejection. As such, the Applicant renews the above arguments and submits that Lambert does not teach each and every element of the claims, including the present functional limitations discussed above.

Regarding claims 2-3, 5-6, and 13-17, the Examiner has acknowledged that such elements are not expressly taught in Lambert but argues that such elements would be obvious to one skilled in the art. Office Action, dated 3/4/11, pages 4-5. Specifically, the Examiner argues that it would have been obvious to use any of Applicant's amines with Lambert's process. However, the Applicant respectfully disagrees and traverses the present rejection.

Notably, the Applicant has found a process that overcomes problems associated with plastic substrates and toners commonly used for electrophotographic printing application, e.g. ElectroInks. The Applicant directs the Examiner to page 1, lines 6-27 of the present specification

where the Applicant discusses the problem of providing a primer having affinity for both a toner and a plastic substrate. To this end, the Applicant has provided unexpected results on page 5, lines 7-15, showing that the present process provided specific transfer and fixing characteristics previously unachieved (comparative samples A, B, C, D having inferior properties compared to the present samples A1, A2, B1, B2, C1, C2, D1, and D2). In light of the present results, the Applicant submits that any *prima facie* case of obviousness has been rebutted.

Additionally, the Examiner has argued that, even though Lambert does not teach the claimed concentrations in claims 14-17, “[t]he amount of amine material in the mordant is a result-effective material affecting the ink accepting ability of the sheet. Consequently, it would have been obvious to one skilled in the art to optimize this concentration by routine experimentation.” Office Action, dated 3/4/11, page 5.

The Applicant traverses the present assumption and submits that the Examiner has erred in equating the result taught by Lambert with Applicant’s result. To be clear, Lambert teaches the use of its mordant as forming “water-insoluble reaction products with the anionic dyes of aqueous ink jet inks.” As such, any optimization would be for this explicitly taught purpose. However, the present amine terminated material is taught for adhering a solution containing such a compound to a plastic substrate as well as maintaining an affinity for a toner comprising pigmented polymer particles and a carrier liquid including a solvent of branched-chain aliphatic hydrocarbons. The Applicant notes that such purposes are entirely disparate. To be clear, a mordant for reacting with an anionic dye has nothing in common with an amine terminated material for adhering to a plastic substrate and having an affinity for the aforementioned toner.

As such, the Applicant notes that Lambert fails to teach that the present amine terminated materials, especially the specific concentrations recited in claims 14-17, are a result effective variable for use in a solution for adhering to a plastic substrate and having an affinity for the a toner comprising pigmented polymer particles and a carrier liquid including a solvent of branched-chain aliphatic hydrocarbons. Therefore, the Applicant submits that the Examiner’s reliance on optimization is improper.

In light of the above, the Applicant submits that Lambert does not teach each and every element, the present disclosure provides for unexpected results that rebut any *prima facie* case of

obviousness, and that the Examiner's arguments relying on optimization are improper. Therefore, the Applicant respectfully requests that the Examiner withdraw the present rejection.

CONCLUSION

In view of the foregoing, Applicants submit that claims 1-8 and 11-17 present allowable subject matter and allowance is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be removed during a telephone interview, the Examiner is invited to the undersigned attorney so that such issues may be resolved as expeditiously as possible.

The Commissioner is hereby authorized to charge any additional fee or to credit any overpayment in connection with this Amendment to Deposit Account No. 08-2025.

DATED this 4th day of May, 2011.

Respectfully submitted,

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